洋葱品種比較試驗報告

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一、前 言

臺灣洋葱品種之引進試植，最早開始於日據初期1912年，臺北縣淡水鎮國民小學有一位日籍教師，從日本引進種子試植於校園內，連續工作二年，認爲臺灣氣候可以栽植洋葱。至1918年臺灣省農業試驗所，亦引進洋葱品種，在臺北試植，感於冬春兩季多雨，未獲優良成績；經移至南部嘉義繼續試驗，結果幼苗時期多病害，成績亦差，生產成本不如從日本輸入葱球，反較合算，於是各試驗機關研究工作停頓，將近三十年。

臺灣光復後，1950年臺北區農業改良場又開始洋葱品種引進工作之研究，發現早熟品種，在臺灣北部氣候，水稻田裏作，可獲得葱球；惟葱球開始膨大時期，春雨連綿不停，所結葱球，含水份過多，易起腐爛，不耐久藏爲一缺點；經數年研究，欲推廣於民間大量栽植，困難尙多。至1954年臺灣省農業試驗所商請農林廳策劃，並承中國農村復興聯合委員會出資補助，將洋葱栽培試驗之重心工作移至中南部，同時開始多品種引進試驗，經數年來之努力，方奠定臺灣洋葱栽培之基礎。近年來漸向南移，恒春、屏東、高雄近海地帶之鹽分地，利用冬季乾燥氣候，爲洋葱生產之中心，中南部以北地區，反成爲歷史上之遺跡，玆將各品種之引進經過及其特性，分述如下，供衆參考。

本試驗農林廳爲主辦機關，農業試驗所負責設計協助辦理，並整理資材及彙編報告，全省七個區農業改良場，鳳山熱帶園藝試驗分所，種苗繁殖場，爲實際負責執行試驗工作，各試驗單位，數年來均能切實負責執行，深堪嘉佩，附此數語，以誌謝意。

二、各品種引進之經過概述

第一年 1954 年引進試作品種僅爲 (1) Early Grano (2) Excel Bermuda (3) Laredo-690 (4) Red Torbeda 四個品種，結果以前二品種適應性爲最大，產量亦最多。

第二年 1955 年除上述四品種外，再加入新品種十五個如下：

(1) Granex (2) San Joaquin (3) Texas Grano (4) White Babosa (5) White Creole (6) Crystal White Wax (7) Red Creole (8) White Portugal (9) Calif. Early Red (10) Red Bermuda (11) Stockton Yellow Globe (12) White Grano (13) India Red Globe (14) Granex Hybrid (15) Yellow Sweet Spanish. 所得結果，以 (1) Early Grano (2) Excel Bermuda (3) San Joaquin (4) Granex 爲最適應，產量亦最多；其次爲 (1) Red Creole (2) White Creole 其他各品種多不甚適應。

第三年 1956 年除上述品種外，又加入新品種十四個如下：

(1) Early Yellow Globe (2) Excel (3) Yellow Globe Danvere (4) Texas Grano 502 (5) Crystal Wax Bermuda (6) Australian Brown (7) South Part Yellow Globe (8) Granex Hybrid (9) Lowseanna Red Creole (10) Ebezer Yellow Globe (11) Burpee Yellow Globe Hybrid (12) White Babosa (13) Downings Yellow Globe (14) Brigham Yellow Globe. 經試作結果，因各年前期九月底以前播種者，連續遭颱風爲害，而少結果；後期各場所之試作成績，仍認第二年選出之品種爲最適應，是年引種之品種多屬晚生。除 (1) Early Yellow Globe (2) Texas Grano 502 外，多因臺灣之高溫而不適，鱗球發育膨軟，無經濟價值，概行淘汰。

三、各品種生育之特性調查

綜合以上三年引進品種數共達三十三個，除極晚生品種十一個，根本不適合臺灣氣候生育淘汰外，尚存二十二個品種，研究其播種期之早晚與結球率，分球率，抽苔率和產量之關係，分述如下。

1. 播種期之早晚與結球率之關係

播種期早晚，就二十二個品種一般而論，早播者其結球率均大於晚播；就品種間之差異，(1) White Creole (2) Red Creole (3) Early Grano (4) Excel Bermuda (5) San Joaquin. 五個品種，雖延至十一月中旬播種，其結球率仍可達80%以上，各播種期之平均結球率在90%以上者有六品種，結球率在80%以上，90%以下者有三品種，結球率在70%以上，80%以下者有四品種，不滿70%者有九品種，詳見下表：

表一　播種期早晚與結球率之關係 (%)

Table 1. Relation between the ratio of bulbing and the sowing time

品種 Varieties	期別及播種期 Date of sowing / 平均單位 Unite of Average	1 8.1 Aug. 1	2 8.16 Aug. 16	3 9.1 Sep. 1	4 9.16 Sep. 16	5 10.1 Oct. 1	6 10.16 Oct. 16	7 11.1 Nov. 1	8 11.16 Nov. 16	9 12.1 Dec. 1	10 12.16 Dec. 16	平均 Ave-rage
1. Granex	八場所二年平均 Ave. of 2 years and 8 Stations	99.80	100	100	95.45	98.10	96.35	100	—	—	—	98.53
2. Early Grano	九場所三年平均 Ave. of 3 years and 9 Stations	97.87	99.05	98.18	94.00	95.33	94.51	92.21	94.14	79.05	73.48	91.78
3. Red Bermuda	四場所二年平均 Ave. of 2 years and 4 Stations	63.40	78.50	—	74.15	77.22	83.92	74.33	—	—	—	75.25
4. Excel Bermuda	九場所三年平均 Ave. of 3 years and 9 Stations	93.33	97.30	90.29	95.58	92.46	94.28	95.20	92.35	82.25	70.00	90.80
5. San Joaquin	九場所二年平均 Ave. of 2 years and 9 Stations	96.67	89.40	86.70	89.04	89.10	95.93	94.46	86.25	70.47	42.67	84.07
6. Crystal White Wax	七場所二年平均 Ave. of 2 years and 7 Stations	89.40	100	77.23	89.33	88.30	85.00	84.45	72.56	40.85	28.30	75.74
7. White Grano	四場所二年平均 Ave. of 2 years and 4 Stations	66.60	40.46	—	100	86.60	67.70	57.37	40.20	—	—	65.56
8. White Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	94.94	94.37	93.63	96.67	94.47	100	93.25	95.33
9. Cailf. Early Red	三場所一年平均 Ave. of 1 year and 3 Stations	92.10	—	100	78.50	20.80	58.20	5.20	—	—	—	59.13
10. Red Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	93.00	88.56	90.10	91.57	87.09	87.98	85.40	89.10
11. Stockton G-36	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	—	42.75	—	—	—	42.75
12. Laredo 690	五場所三年平均 Ave. of 3 years and 5 Stations	96.50	—	—	88.80	85.72	81.40	76.45	—	—	—	85.77
13. India Red Globe	三場所二年平均 Ave. of 2 years and 3 Stations	—	—	—	99.10	95.75	88.45	71.33	69.30	43.66	64.10	75.96
14. Yellow Sweet Spanish	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	35.50	55.93	49.15	49.10	18.65	27.40	19.90	—	36.52

15. White Portugal	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	39.95	55.55	95.80	78.60	13.30	53.65	14.20	—	50.15
16. Early Yellow Globe	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	91.00	65.00	70.00	65.00	50.00	68.20
17. Texas Grano 502	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	98.47	—	—	—	100	—	—	—	99.24
18. Stockton Yellow Globe	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	71.70	97.70	21.00	40.87	47.65	70.70	—	—	58.27
19. White Babosa	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	52.13	75.30	32.10	—	—	—	—	—	53.18
20. Granex Hybrid	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	—	94.00	87.67	92.76	92.15	—	—	—	91.62
21. Ebezer Yellow Globe	一場所一年平均 Ave. of 1 year and 1 Station	—	—	14.90	94.10	61.60	75.80	15.00	56.00	—	—	52.90
22. Red Torbeda	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	—	79.25	69.00	76.12	80.37	—	—	—	76.19

2. 播種期早晚與分球率之關係

分球率均因播種期之提早而相對增加，各品種在十一月初旬以後播種者，分球率漸見減低，僅 (1) Red Creole (2) White creole (3) India Red Globe 三品種，延至十二月中旬播種，尚有分球出現，各播種期之平均，分球率大於30%以上者有三品種，大於20%以上，30%以下者有四品種，大於10%以上，20%以下者有七品種，不滿10%者有八品種，詳見下表：

表二 播種期早晚與分球率之關係 (%)

Table 2. Relation between the ratio of bulb separation and the sowing time

品種 Varieties	期別及播種期 Date of sowing / 平均單位 Unite of Average	1 8.1 Aug. 1	2 8.16 Aug. 16	3 9.1 Sep. 1	4 9.16 Sep. 16	5 10.1 Oct. 1	6 10.16 Oct. 16	7 11.1 Nov. 1	8 11.16 Nov. 16	9 12.1 Dec. 1	10 12.16 Dec. 16	平均 Average
1. Granex	八場所二年平均 Ave. of 2 years and 8 Stations	9.60	7.70	12.25	7.10	3.60	3.40	1.30	—	—	—	6.42
2. Early Grano	九場所三年平均 Ave. of 3 years and 9 Stations	20.40	10.65	25.90	16.57	16.34	10.62	5.20	1.90	0.25	0	10.98
3. Red Bermuda	四場所二年平均 Ave. of 2 years and 4 Stations	48.35	45.40	—	70.20	44.10	36.29	35.63	—	—	—	46.66
4. Excel Bermuda	九場所三年平均 Ave. of 3 years and 9 Stations	25.31	22.20	23.21	22.08	13.08	10.21	4.03	0.91	0	0	12.10
5. San Joaquin	九場所二年平均 Ave. of 2 years and 9 Stations	30.83	5.46	9.83	5.76	7.17	3.20	1.28	0.30	0	0	6.38
6. Crystal White Wax	七場所二年平均 Ave. of 2 years and 7 Stations	75.40	81.00	63.28	54.75	47.60	43.30	10.20	7.84	0	0	38.34
7. White Grano	四場所二年平均 Ave. of 2 years and 4 Stations	18.50	10.00	—	5.90	0	0.67	0.67	0	—	—	5.15
8. White Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	39.42	31.26	30.36	24.00	8.24	4.10	1.20	19.80
9. Calif. Early Red	三場所一年平均 Ave. of 1 year and 3 Stations	7.70	—	66.60	27.20	4.00	6.85	0	—	—	—	18.73

10. Red Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	31.53	20.05	23.88	15.13	11.31	10.63	6.20	17.00
11. Stockton G-36	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	—	0.45	—	—	—	0.45
12. Laredo 690	五場所三年平均 Ave. of 3 years and 5 Stations	49.50	—	—	35.90	23.82	18.68	12.67	—	—	—	28.11
13. India Red Globe	三場所二年平均 Ave. of 2 years and 3 Stations	—	—	—	84.60	36.85	29.50	29.60	4.76	19.05	16.70	31.58
14. Yellow Sweet Spanish	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	0	0	32.75	0	0	0	0	—	4.68
15. White Portugal	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	27.10	28.50	15.90	17.75	0	0	0	—	12.75
16. Early Yellow Globe	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	0	0	0	0	0	0
17. Texas Grano 502	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	35.87	—	—	—	13.30	—	—	—	24.59
18. Stockton Yellow Globe	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	71.40	33.30	8.00	13.80	0	2.80	—	—	21.55
19. White Babosa	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	23.66	42.70	3.40	—	—	—	—	—	23.25
20. Granex Hybrid	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	—	1.17	1.80	2.43	0	—	—	—	1.35
21. Ebezer Yellow Globe	一場所一年平均 Ave. of 1 year and 1 Station	—	—	0	34.10	16.60	4.90	0	0	—	—	0.93
22. Red Torbeda	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	—	33.87	19.62	16.65	6.00	—	—	—	19.04

3. 播種期早晚與抽苔率之關係

抽苔率亦因播種期提早而相對增加，各品種在十一月初旬以後播種者，抽苔率則極低，僅 (1) Red Creole (2) India Red Globe 二品種，延至十二月初旬播種尚有抽苔率出現；各播種期之平均，抽苔率大於10%以上者有四品種，大於 5 %以上，10%以下者有三品種，5 %以下者有九品種，0 %者有六品種，詳見下表：

表三　播種期早晚與抽苔率之關係 (%)

Table 3. Relation between the ratio of bolting and the sowing time

品種 Varieties	期別及播種期 Date of sowing / 平均單位 Unite of Average	1 8.1 Aug. 1	2 8.16 Aug. 16	3 9.1 Sep. 1	4 9.16 Sep. 16	5 10.1 Oct. 1	6 10.11 Oct. 16	7 1.11 Nov. 1	8 11.16 Nov. 16	9 12.1 Dec. 1	10 12.16 Dec. 16	平均 Average
1. Granex	八場所二年平均 Ave. of 2 years and 8 Stations	2.10	0	8.18	1.44	2.94	1.47	0	—	—	—	2.30
2. Early Grano	九場所三年平均 Ave. of 3 years and 9 Stations	1.85	0	5.55	3.52	0.33	0	0	0	0	0	1.13
3. Red Bermuda	四場所二年平均 Ave. of 2 years and 4 Stations	53.05	45.40	—	34.35	16.55	30.07	0	—	—	—	29.90
4. Excel Bermuda	九場所三年平均 Ave. of 3 years and 9 Stations	0	0.55	25.50	20.55	9.09	2.65	0	0	0	0	5.83
5. San Joaquin	九場所二年平均 Ave. of 2 years and 9 Stations	0	0	0.99	0.91	0.17	0	0	0	0	0	0.21

6.	Crystal White Wax	七場所二年平均 Ave. of 2 years and 7 Stations	68.40	27.20	25.78	18.58	9.56	2.90	0.25	0	0	0	15.28
7.	White Grano	四場所二年平均 Ave. of 2 years and 4 Stations	25.90	4.70	—	0	0	0.60	0	0	—	—	4.46
8.	White Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	20.62	12.05	7.64	1.10	0	0	0	5.92
9.	Calif. Early Red	三場所一年平均 Ave. of 1 year and 3 Stations	2.60	—	0	0	0	0	0	—	—	—	0.43
10.	Red Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	41.03	38.59	26.35	8.59	10.33	1.78	0	18.10
11.	Stockton G-36	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	—	0	—	—	—	0
12.	Laredo 690	五場所三年平均 Ave. of 3 years and 5 Stations	16.00	—	—	5.80	1.80	0.34	0	—	—	—	4.79
13.	India Red Globe	三場所二年平均 Ave. of 2 years and 3 Stations	—	—	—	94.10	44.60	63.20	63.06	21.46	16.55	1.75	43.53
14.	Yellow Sweet Spanish	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	2.90	3.66	0	0	0	0	0	—	0.94
15.	White Portugal	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	0	0	0	0	0	0	0	—	0
16.	Early Yellow Globe	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	0	0	0	0	0	0
17.	Texas Garno 502	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	0.60	—	—	—	0	—	—	—	0.30
18.	Stockton Yellow Globe	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	0	0	0	0	0	0	—	—	0
19.	White Babosa	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	3.37	22.70	0	—	—	—	—	—	8.69
20.	Granex Hybrid	四場所一年平均 Ave. of 1 year and 4 stations	—	—	—	0	0	0	0	—	—	—	0
21.	Ebezer Yellow Globe	一場所一年平均 Ave. of 1 year and 1 Station	—	—	0	0	0	0	0	0	—	—	0
22.	Red Torbeda	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	—	0.13	1.32	0.13	0.25	—	—	—	0.46

4. 播種期早晚與產量之關係

產量因播種期提早，各品種均直線上昇，尤以早熟品種，其上昇之數字，較晚熟品種更爲明顯，各品種其播種期過份延遲，至十二月初旬以後播種者，其產量僅及早播者二分之一，或三分之一，或四分之一不等，各播種期之產量平均，每10公畝產量超過3000公斤以上者，有三品種，2000公斤以上，3000公斤以下者有四品種，1000公斤以上，2000公斤以下者有十一品種，不滿1000公斤者有四品種，詳見下表四：

四、各優良品種球型特徵之比較

就上二十二個品種中，各場所連續數年品種比較試驗結果，合於臺灣氣候，結球率高而產量多，分球率少而抽苔率低，共選出六個品種，其球型之特徵，測定如下表五：

表四 播種期早晚與產量之關係

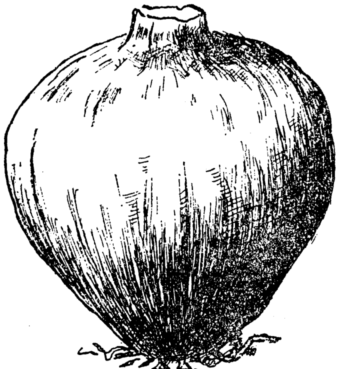
Table 4. Relation between the yield and the sowing time (公斤/10公畝)

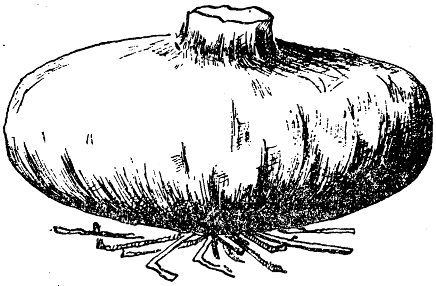
品種 Varieties	期別及播種期 Date of sowing / 平均單位 Unite of Average	1	2	3	4	5	6	7	8	9	10	平均 Average
		8.1 Aug. 1	8.16 Aug. 16	9.1 Sep. 1	9.16 Sep. 16	10.1 Oct. 1	10.16 Oct. 16	11.1 Nov. 1	11.16 Nov. 16	12.1 Dec. 1	12.16 Dec. 16	
1. Granex	八場所二年平均 Ave. of 2 years and 8 Stations	4,361.86	4,104.00	3,311.00	3,802.39	3,935.50	3,302.88	3,148.00	—	—	—	3,709.38
2. Early Grano	九場所三年平均 Ave. of 3 years and 9 Stations	4,719.72	5,955.00	4,382.00	3,671.45	3,488.93	3,287.55	2,929.09	1,631.14	1,166.50	1,024.00	3,225.54
3. Red Bermuda	四場所二年平均 Ave. of 2 years and 4 Stations	1,472.10	2,804.00	—	2,436.00	2,979.66	2,956.60	1,560.31	—	—	—	2,374.78
4. Excel Bermuda	九場所三年平均 Ave. of 3 years and 9 Stations	4,442.00	4,945.50	3,908.63	3,368.32	3,242.66	3,073.90	2,505.84	1,509.67	1,272.31	807.66	2,907.65
5. San Joaquin	九場所二年平均 Ave. of 2 years and 9 Stations	3,822.31	3,623.00	2,488.40	3,008.30	3,143.36	2,956.84	2,331.99	888.49	505.50	202.00	2,297.02
6. Crystal White Wax	七場所二年平均 Ave. of 2 years and 7 Stations	3,033.00	3,944.00	2,277.00	2,171.00	1,426.00	1,424.60	1,501.00	930.21	168.62	77.00	1,695.24
7. White Grano	四場所二年平均 Ave. of 2 years and 4 Stations	3,000.00	1,500.00	—	1,657.00	1,072.00	1,320.00	1,339.00	628.00	—	—	1,502.29
8. White Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	1,897.80	1,746.33	1,680.18	1,276.33	700.00	655.00	590.00	1,220.81
9. Calif. Early Red	三場所一年平均 Ave. of 1 year and 3 Stations	2,038.90	—	549.00	461.00	724.00	1,595.50	56.00	—	—	—	904.07
10. Red Creole	八場所二年平均 Ave. of 2 years and 8 Stations	—	—	—	2,004.00	1,330.40	1,568.20	1,305.50	1,297.71	1,161.33	759.40	346.65
11. Stockton G-36	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	—	837.50	—	—	—	837.50
12. Laredo 690	五場所三年平均 Ave. of 3 years and 5 Stations	2,683.50	—	—	1,656.75	1,435.60	1,443.40	1,001.00	—	—	—	1,644.05
13. India Red Globe	三場所二年平均 Ave. of 2 years and 3 Stations	—	—	—	1,945.00	1,576.50	1,201.00	875.00	800.62	915.50	662.00	1,142.23
14. Yellow Sweet Spanish	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	1,694.50	1,705.60	1,021.00	569.50	1,948.00	245.00	547.00	—	1,104.37
15. White Portugal	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	249.00	210.00	280.00	799.00	230.00	454.50	275.00	—	356.79
16. Early Yellow Globe	二場所一年平均 Ave. of 1 year and 2 Stations	—	—	—	—	—	1,477.00	1,315.00	1,110.00	1,221.00	94.00	1,043.40
17. Texas Grano 502	三場所一年平均 Ave. of 1 year and 3 Stations	—	—	3,014.00	—	—	—	4,704.00	—	—	—	3,859.00
18. Stockton Yellow Globe	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	1,839.00	2,200.00	778.00	1,341.33	857.50	2,053.00	—	—	1,511.47
19. White Babosa	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	1,531.00	1,444.50	1,302.00	—	—	—	—	—	1,425.83
20. Granex Hybrid	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	—	1,816.33	3,098.31	2,341.62	1,402.50	—	—	—	2,164.69
21. Ebezer Yellow Globe	一場所一年平均 Ave. of 1 year and 1 Station	—	—	116.00	224.00	135.00	497.00	265.00	639.00	—	—	312.66
22. Red Torbeda	四場所一年平均 Ave. of 1 year and 4 Stations	—	—	—	1,666.00	1,157.50	1,021.00	1,319.25	—	—	—	1,290.94

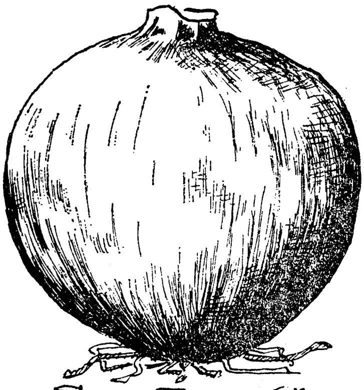
表五　優良洋葱品種球型之特徵

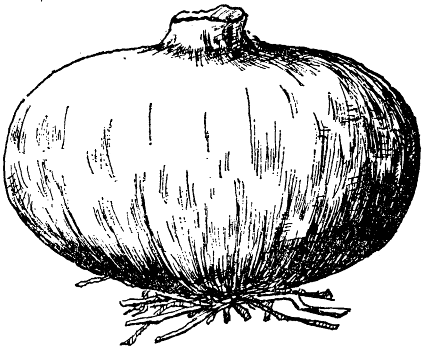
Table 5. Character of the bulbs of the better onion varieties

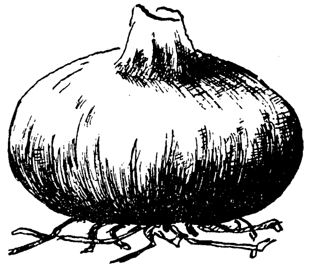
品種 Varieties	球型 Form of bulbs	外皮色澤 Color of tunic	球徑 Diameter of bulbs (cm)	球高 Height of bulbs (cm)	鱗球重量 Weight of bulbs (g)	緊密程度 Fast or loose
Early Grano	倒卵型 Obovate	淡黃 Light yellow	6.02	6.11	115.0	鬆 Loose
Excel Bermuda	扁圓型 Flat Orbicular	淡黃 Light yellow	6.51	3.96	106.3	緊 Fast
San Joaquin	近球型 Orbicular	淡黃 Light yellow	6.11	6.23	124.0	緊 Fast
Granex	扁圓型 Flat Orbicular	淡黃 Light yellow	6.59	4.52	115.0	緊 Fast
Red Creole	扁圓型 Flat Orbicular	紫紅 Violet red	4.97	3.65	53.7	緊密 Faster
White Creole	扁圓型 Flat Orbicular	白色 White	4.63	3.51	54.8	緊密 Faster


Early Grano

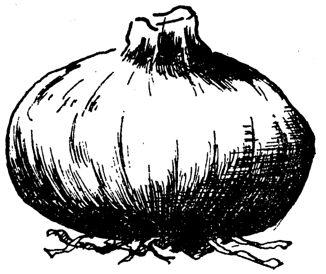

Excel Bermuda


San Joaquin


Granex



Red Creole



White Creole

五、結　　　論

1. 二十二個品種，播種期提早，產量及結球率固可提高，但分球率及抽苔率亦相對增多，對洋葱品質影響甚大；過遲播種者，雖分球率及抽苔率降低，但葱球不大，產量減少，亦屬不適。

2. 早熟品種之播種適期，以九月下旬至十月中旬之間爲最佳，九月中旬以前播種，不特育苗時間常遇颱風豪雨之害，除用特殊設備覆蓋外，不易育成。晚熟品種，如 Red Creole, White Creole 等之播種適期，在南部以十月下旬爲最適，臺中以北爲十月中旬。過早播種，分球抽苔率極高，鱗球形質劣變。

3. 二十二個品種，就播種期之早晚，與產量、結球率、分球率、抽苔率之比較，合於臺灣氣候之栽培價值者早熟種有四個品種。(1) Granex (2) Early Grano (3) San Joaquin (4) Excel Bermuda，晚熟種有二個品種 (1) Red Creole (2) White Creole.

4. 晚熟種 Red Creole 及 White Creole，在生育期中，抗病力强，收穫之鱗球大小，雖不十分整齊，產量又低，但極耐貯藏，在臺灣之自然室溫下，經過炎熱漫長之暑期，腐敗率極低，爲前述早熟種所不及。

5. 此外比較試驗品種中 (1) Red Bermuda (2) White Grano (3) Crystal White Wax (4) Granex Hybrid (5) Texas Grano (6) Laredo 690 等六品種，尙有試驗調查價值外，其餘各品種，成績極差，在臺灣無栽培經濟價值。

A REPORT ON COMPARATIVE TEST OF ONION VARIETIES

by

T. H. Yu, C. S. Wang & P. N. Lee

SUMMARY

1. In a trial of twenty two onion varieties, it was found that, when the dates of planting were early in the season, the rates of bulbing and the yields were increased with higher yields of doubles and bolters. However, if the date of planting was too late in the season, the size of bulbs was so reduced that the yield was apparently decreased, although the rates of doulbling and bolting were also lowered.

2. The optimum dates of planting early harvesting varieties of onion were found between the last of September and the middle of October. Planting seeds before middle of September was dangerous because of possiblility of Typhoone damage, unless there is proper protection provided to seedbeds. The optimum dates of planting late harvesting varieties of onion, such as Red Creole, White Creole, were near the last of October in the southern part of the island, and in the middle of October in the northern part of the island.

3. Among the twenty two onion varieties tested, based upon the performance in relation to time of planting, yield, rate of bulbing and bolting habit, the following varieties were adapted to Taiwan climatic conditions:

Early harvesting varieties: Granex, Early Grano, San Joaquin, Excel Bermuda.

Late harvesting varieties: Red Creole, White Creole.

4. Red Creole and White Creole were resistant to diseases, yet low yielding with small bulbs not uniform in shape. However, these varieties were excelent keepers and could be stored over summer with very low rates of losses. The other varieties tested were all poor keepers.

5. Among the varieties tested, the following were partially adepted to Taiwan conditions, and may receive further attention: 1) Red Bermuda, 2) White Grano, 3) Crystal White Wax, 4) Granex Hybrid, 5) Texas Grano 502, 6) Laredo 690.

The varieties which did not show promising in the trial were as follows: 1) California Early Red, 2) Stockton G-36, 3) India Red Globe, 4) Yellow Sweet Spanish, 5) White Portugal, 6) Early Yellow Globe, 7) Stockton Yellow Globe, 8) White Babosa, 9) Ebezer Yellow Globe, 10) Red Torbeda.